

## BURRHUS FREDERICK SKINNER (1904-1990)

**S**kinner developed the ideas of a number of his predecessors (notably Pavlov and Watson) by subjecting animals and humans to a series of rigorous experiments to arrive at the concept of what he termed *radical behaviourism*.

Skinner designed a number of ingenious devices which he used for his experiments. The most famous of these was the Skinner boxes. The boxes were fitted with a lever inside, which if pressed would produce either water or a food pellet. Rats were placed in the box. At first by accident, then by design, the rats discovered that water or food would appear when they pressed against the lever. Skinner referred to this phenomenon as **positive reinforcement**. In later experiments, he added grids that produced electric shocks when activated. Through this, he studied the impact of what he called **negative reinforcement** on behaviour.

Skinner argued that not only did positive reinforcement have a longer-lasting effect on behaviour than negative reinforcement, but that negative reinforcement could actually be counter-productive.

At first glance, it would appear that Skinner is merely confirming Pavlov's notion of a conditioned response. Skinner argued, however, that whereas the response made by Pavlov's dogs was a reflex action (a reaction to the environment), the rats in his experiments operated not out of reflex but acted on the environment (rather than reacting to it). This was what became known as *operant conditioning*.

## OPERANT CONDITIONING – RADICAL BEHAVIOURISM

### How to use it

Ofsted-type inspections are a stressful time for staff. During the run-up to an inspection at a university where I worked, a colleague took a day's unauthorised leave of absence. On his return, he was summoned by the Dean and told that because of his actions he would not be allowed to take part in the inspection. Imagine how popular he was with colleagues when he came into the staff room with a big grin on his face.

An important principle to bear in mind with any aspect of behaviourism is that it is the behaviour that needs to be addressed, not the individual displaying the behaviour. If you are going to work with people whose behaviour needs modifying, then you will have to understand that there are two types of behaviour modification approaches, referred to as positive and negative reinforcement:

- Positive reinforcement is where good behaviour can be encouraged by offering rewards.
- Negative reinforcement is where the likelihood of poor behaviour can be discouraged through pairing it with an unpleasant consequence.

If you are going to use reinforcement as a behaviour modification tool, then the following points are important:

- Rewards and punishments will only act as reinforcements if the reward is something an individual desires or the punishment is something they fear.
- You can shape behaviour in a series of gradual steps by offering rewards for simple behaviour modifications and then increasing the complexity.

Remember to check out with your organisation what their policies and practices are in relation to learners misbehaving. Rewards and punishments should only be used when there is compliance with these policies and practices.

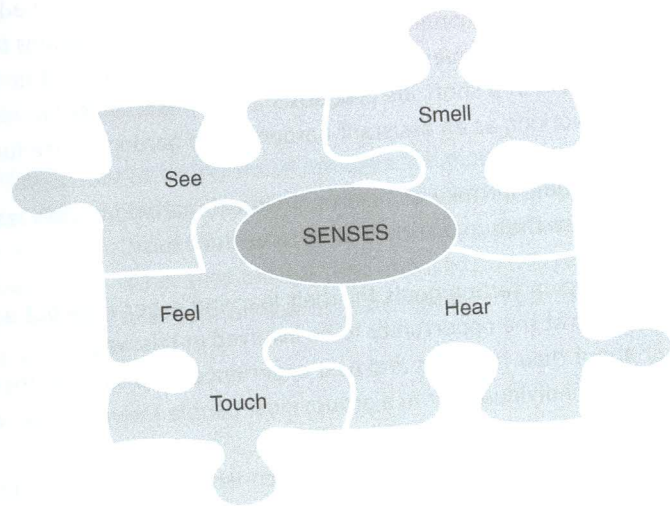
### In the classroom

- Only offer rewards for good behaviour if the rewards are things the learner cherishes.
- Only threaten punishments for bad behaviour if the punishments are things the learner fears.
- Remember that positive reinforcement will have a longer-lasting effect than negative reinforcement.

### For more on Skinner's ideas, read

- Skinner, B.F. (1953) *Science and Human Behaviour*. New York: Free Press.  
Skinner, B.F. (1958) Reinforcement today. *American Psychologist*, 13, 94-9.

**M**ontessori believed in the importance of educating the senses before educating the intellect. Her theories developed as a result of her time spent as a physician working with children categorised as *uneducable*. She rejected the behaviourist approach to teaching skills through repetition and focused on developing exercises that prepared people to learn new skills by first educating their senses.



Her theories are based on a series of observations of children, during which time she discovered:

- Young learners (from birth to around age 6), in particular, have an 'absorbent mind', during which time their motivation to learn new things is limitless.
- There are a number of 'sensitivity periods' of development during which time a learner's mind is open to learning new skills or knowledge.
- Movement enhances thinking and learning.
- People learn better when learning is relevant to them.
- All learners are capable of self-directed learning.
- Learning is improved if there is a sense of control or order within the classroom.
- Learners learn best from self-discovery and making mistakes.

Montessori suggested that the focus on self-realisation through independent activity, the concern with attitude, the focus on the teacher as facilitator and the creation of a stimulating learning environment would create a more meaningful learning experience.

### How to use it

It's difficult not to get carried away with some of the philosophical ideas that underpin Montessorian education. Tell my mate Glen, a bricklaying tutor at a local college, that all of his learners 'hold within them something wonderful, something so special that it could be the key to changing the world', and he'll think you've been off with the fairies again. There is, however, something wholesome in what Montessori is advocating.

To become a Montessorian:

- Appreciate that people thrive on order and structure, so ensure that everything has its place and that the learning environment is as accessible as possible for people to work in.
- Be aware that individuals will have peaks and troughs in their responses to your teaching. Don't assume that people are learning at the same intense rate as others. Have a strategy for dealing with both high- and low-intensity individuals in the same group.
- Make your learning materials appeal to as wide a range of senses as possible. A maths teacher I once observed brought several different boxes of a well-known sweet (cones, boxes, cylinders, etc.) into class. She used them to teach size, shape, volume, even statistics by looking at the frequency of colours of sweets in each packet. Learners were allowed to eat the sweets afterwards.
- Encourage people to develop as spontaneous, creative individuals by allowing them to view situations from different standpoints (see Theory 15), take risks, make mistakes and follow their natural impulses.
- Allow individuals the freedom to work alone on certain activities but don't forget to urge them to share their learning experiences with others. In this capacity, appreciate your role as facilitator (see Theory 24), not classroom controller.

### In the classroom

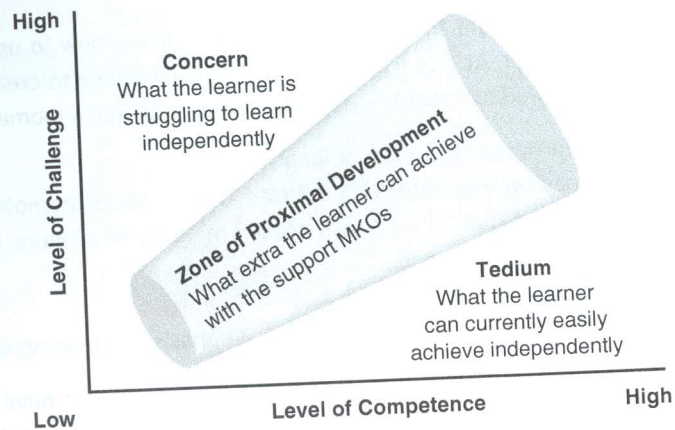
- Make your subject matter accessible to all.
- Have learning materials that appeal to a wide range of senses.
- Encourage learners to follow their natural instincts and not be afraid of making mistakes.

### For more on Montessori's ideas, read

- Hainstock, E.G. (1997) *The Essential Montessori: An Introduction to the Woman, the Writings, the Method and the Movement*. New York: Plume.
- Standing, E.M. (1984) *Maria Montessori: Her Life and Work*. New York: Plume.

Vygotsky believed that knowledge and thought are constructed through social interaction with family, friends, teachers and peers. He referred to the people that we learn from as **Most Knowledgeable Others (MKOs)** and the process of learning through social interaction as being in the **Zone of Proximal Development (ZPD)**. He suggested that when learners were in the ZPD, they developed an understanding of a subject that may have been beyond their previous level of comprehension. He also developed the concept of *scaffolding* to describe the teacher's role in engaging with people and supporting their development while they were in the ZPD.

The three concepts can be linked in the following:



The principles underpinning *scaffolding* are:

- Build interest in the subject and engage with people.
- Break the given task into smaller sub-tasks.
- Keep the individual or group focused on completing the sub-tasks but don't allow them to lose sight of the main task.
- Use MKOs to support people.
- Model possible ways of completing the task, which individuals can imitate and then eventually internalise.

Vygotsky maintained that scaffolding could be used by a teacher to help people safely take risks and reach a higher level of understanding than would be possible by the individual's efforts alone.

**How to use it**

The analogy of constructing a building is useful here. Scaffolding is essential in the early stages to support the structure as building work progresses but can be withdrawn as the shell of the building is complete. In the same way, learners will need support at appropriate times, at an appropriate level and by appropriate people, thus emphasising the importance of social interaction in the learning process.

Don't be put off by the phrase *zone of proximal development*; it just means that if a person has no direct experience of a particular subject, then using the experiences of others will help them overcome this.

ZPD is one aspect of scaffolding that can best be achieved by:

- testing prior knowledge or understanding of the subject. This is a great way of engaging with learners and making a note of each contribution on a flip chart will demonstrate that you value their contribution
- getting members of the group to share their experiences with the rest of the group. Alternatively, you could split the main group into smaller groups (useful if you feel some individuals may be intimidated by discussing experiences in front of a large group), making sure that you have at least one MKO in each of the groups
- breaking the main task down into smaller sub-tasks. This will take the menace out of daunting tasks. Allowing people some early successes by completing sub-tasks will keep them motivated, but don't allow them to become complacent, and keep them focused on the main task
- challenging the individual to move beyond their comfort zone by listening attentively to the experiences of others, examining what may be of relevance to them and adapting and adopting this information to build on their understanding of the subject
- emphasising to people that although they have benefited by listening to the experiences of others, they may also have something to contribute to the learning of others.

The emphasis in this process is on you as a facilitator (see Theory 24), who provides the individual with the scaffold to establish a sound foundation for further learning. Don't hesitate to model possible solutions but avoid, wherever possible, spoon-feeding them the answer.

**In the classroom**

- Test learners' prior knowledge of the subject.
- Have more knowledgeable learners work alongside less knowledgeable colleagues.
- Prepare learners to come out of their comfort zone.

**For more on Vygotsky's ideas, read**

Vygotsky, L.S. (1962) *Thought and Language*. Cambridge, MA: MIT Press.  
 Vygotsky, L.S. (1978) *Mind in Society*. Cambridge, MA: Harvard University Press.

**S**ocrates is often considered to be one of the founders of western philosophy. He developed the *Socratic* or *dialectical* method of philosophy which is based on persistent questioning and the belief that the life which is unexamined is not worth living.

Here is a summary of some of the key questions and answers that Socrates posed related to teaching and learning:

- **What is knowledge?** He categorised knowledge into the trivial and the important. Trivial knowledge doesn't provide the possessor with any useful expertise or wisdom. Important knowledge relates to ethics and morals and can be defined by how best to live one's life.
- **Why do we need to learn?** Although he believed that goodness and truth, and ethical and moral instincts are inherent in everyone, they can only be brought to the surface through learning.
- **How do we learn?** He described learning as the search for truth. Learning will only occur as the result of questioning and interpreting the wisdom of others and when one comes to recognise his/her own ignorance and faults.
- **Who do we learn from?** He didn't believe that any one person, or any one particular school of thought, had the wisdom or legitimate authority to teach things. He did, however, argue that individuals are not self-sufficient and that other people are necessary to share the experience and wisdom from which learning can flourish.
- **Where do we learn?** He questioned the established idea that learning could only take place in educational establishments and advocated that learning should take place wherever and whenever people meet.
- **When do we learn?** He argued that this happened whenever two or more people engaged in meaningful dialogue and when one person was willing to see their own faults, weaknesses and negative tendencies.

The Socratic method of teaching is based on the teacher asking leading questions and guiding the learner to discovery. Its cornerstone is the dialogue between the teacher and the learner, which uses critical inquiry to challenge preconceived thoughts and established doctrines.

### How to use it

If you follow the principle of the unexamined life being worthless, then you must be honest in how you examine what you've done. Admitting failure and learning from errors are as important as reflecting on your successes in making you a good teacher.

Michael Jordan, arguably one of the greatest basketball players of all times, admitted that, throughout a career spanning 15 years, he had: missed more than 9000 shots at the basket; lost nearly 300 games; and missed important game-winning shots on 26 occasions. He admits to having failed time and time again, which is why he feels he was a success.

To be prepared to fully reflect on what you have done, look at the reflective practice models covered in Theories 96–98. There's something there for everyone in terms of the scope and scale of reflection and some great models to use.

If you want to follow the doctrines of Socrates:

- Never be afraid of making mistakes. OK, giving out wrong information will have to be corrected as soon as possible, but mistakes are always forgivable if you learn from them.
- Be aware of the boundaries that you are working to. Although you may not have the licence to challenge your learners' ethics and morals, if they are preventing learning from taking place it may come into your jurisdiction and you may have to do something about it. Read Theories 26 and 29 for more on this.
- Try to avoid giving out too many answers. Concentrate on guiding learners to discover more about the subject by asking them challenging questions. A good rule of thumb here is to ask four times as many questions as you give answers.
- Encourage members of the class to engage in meaningful dialogue, unhindered by your presence, whenever possible. Get them to summarise their discussions with the rest of the group. In this way, the sharing of wisdom and experiences will be more widespread.

Socrates believed that unless people examined their lives and gained the wisdom that accrued from this, they would continue to make mistakes.

### In the classroom

- Accept that mistakes will happen.
- Treat all mistakes as a learning opportunity.
- Encourage learners to constantly question what they, and you, are saying or doing.

### For more on Socrates' ideas, read

Navia, L.E. (2007) *Socrates: A Life Examined*. New York: Prometheus Books.

Plato (1997) *The Trial and Death of Socrates: Four Dialogues*. New York: Classic Books International.

Maslow's most famous work was the 'Hierarchy of Needs' in which he suggested that an individual's response to learning is dominated at any given moment by whichever need has priority.

The hierarchy of needs is divided into two phases. The lower-order needs relate to the physiological and safety aspects of learning (physical and psychological). Maslow argued that progression to higher levels is not possible unless the lower-level needs have been met. The steps can be summarised as:

#### Lower-order needs

1. Physiological: comfort, heating and lighting.
2. Safety: physical and psychological.

#### Higher-order needs

1. Belonging: acceptance and mutual trust.
2. Esteem: self-confidence and self-respect.
3. Self-actualisation: realising potential and a desire to grow.

Maslow claimed that the motivation to progress through each level can be driven by either extrinsic or intrinsic forces. It is the inner desire to want to achieve (intrinsic motivation), however, that is the cornerstone of the humanistic approach.

#### How to use it

Not everyone will experience self-actualisation in its full sense but many will enjoy periods of *peak experience* where they derive a sense of achievement at mastering a skill. Don't feel that it is down to you to ensure that everyone's needs are fully met. People can, and do, function in various states of contentedness. They also have expectations of you, such that although conditions may not always be perfect they should at the very minimum be tolerable.

The following is an attempt to demonstrate how a learner's needs may be met, partially if not fully:

- Learners will want to feel comfortable in the session, so make sure heating and ventilation systems are functioning properly. Build in refreshment and toilet breaks. Arrange seating according to needs.
- Learners will want to feel safe from physical and psychological harm, so make sure that you have well-planned lessons and good classroom control. Deal with threatening behaviour in an appropriate manner (see Section 2.4).
- Learners will want to feel respected by you, so show them that you care for them by taking time out to find out about their interests.
- Learners will also want to feel accepted by their peers, so encourage interaction by mixing up members of the group in practical activities.
- Learners will want to feel a sense of pride in their achievements. Praise from you when they come up with new ideas and original solutions to problems is good but praise from peers is even better, so get learners to share their ideas with the rest of the group.
- Learners will want to feel that they have realised their full potential. You may have to be realistic about what you can achieve here but always be positive about what they can achieve next.

#### In the classroom

- Make sure your learners are comfortable in the class.
- Get your learners working together.
- Give your learners every opportunity to achieve their learning ambitions.

#### For more on Maslow's ideas, read

- Maslow, A.H. (1987) *Motivation and Personality* (3rd edition). New York: HarperCollins.  
Maslow, A.H. (1993) *The Further Reaches of Human Nature*. London: Penguin.

**How to use it**

Facilitation is more about how you teach than what you teach. It's about making the process of learning easier for people. In order to use this approach, you must have a firm belief in your role as the class facilitator, not the class controller or director. Do this half-heartedly and you will not be adopting a humanistic approach.

It's important, therefore, to look at the actions necessary for good facilitation:

- Start by setting the mood and climate for the session. How you come over to others in the opening stanza of the session will have a significant impact on how they perform during the session.
- Find out what others are expecting from the session. Get full agreement on what the learning outcomes will be. Write them on a flip chart (this will be useful to refer to during the session).
- Have a range of learning resources available (exercises, tasks, etc.).
- Act as a flexible resource to be utilised by learners.
- Become a learning participant. You will be surprised how much you can learn from your learners.
- Find out what your learners gained from the session. Go round each learner and ask what one thing they learned from the session.
- Don't be afraid to share your own feelings about the learning experience.
- Be receptive to criticism and never be afraid to recognise and accept your own limitations.

The behaviours and actions you display during a session will often stimulate other people's desire to want to learn more about the subject beyond the actual content of the session.

**In the classroom**

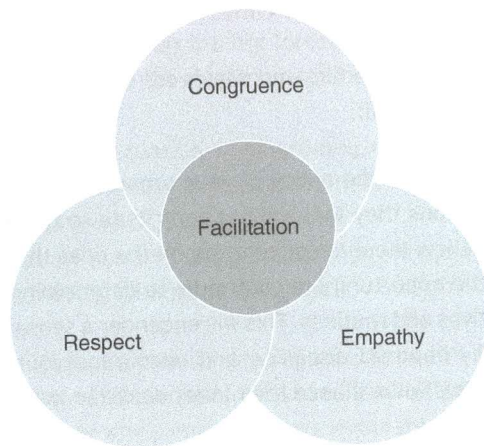
- Always be genuine and honest with your learners.
- Try to understand how they are feeling about the subject.
- Think positively about your learners' potential to achieve.

**For more on Rogers' ideas, read**

- Rogers, C. (1994) *Freedom to Learn*. New York: Prentice Hall.  
 Rogers, C. (2004) *On Becoming a Person*. London: Constable.

**R**ogers was a driving force in the humanist movement, which advocated a shift in emphasis in the learning process away from the teacher towards the learner. In the humanist approach, the teacher's role changes from one of authority or expertise, providing solutions, to one of facilitating the process of individuals arriving at their own solutions.

Rogers identified three elements which he felt were an important part of effective facilitation:



These can be summarised as:

- **Congruence** - being true to yourself and not being afraid to express your feelings in an effort to establish a rapport with others.
- **Empathy** - being willing to consider issues from the other person's standpoint.
- **Respect** - accepting others for what they are in a non-critical and non-judgemental manner.

Rogers said that his belief in 'his inability to teach anyone anything, merely to provide an environment conducive to effective learning' is the guiding principle behind his theory.

**F**reire was a Brazilian educator who began a national literacy programme for peasants and slum dwellers in the 1950s and 1960s. Freire's basic belief was that the function of education was to build on the language, experience and skills of the learner rather than imposing on them the culture of the teacher. Throughout his writings, he uses politically motivated phrases such as 'dialogue liberates – monologue oppresses'.

The concept of *critical consciousness*, the cornerstone of Freire's ideas, is that the richest learning begins with action, is then shaped by reflection, which gives rise to further action. His methodology can be depicted in the following five-step model:

- **Identify the problem:** this is where teachers and learners engage in dialogue and research to establish the nature of the problem that needs to be answered.
- **Find an original way of representing the problem:** get learners to use role play, drawings, metaphors and analogies to do this and then compare what they have produced to see if there is a common theme to the problem.
- **See the problem through your learners' eyes:** ask learners to describe the situation as seen in the representation and make the link between themselves and the problem.
- **Analyse the cause of the problem:** get everyone concerned to discuss what is happening and what can be done to address the root cause of the problem.
- **Take action to solve the problem:** produce a plan of action to identify what needs to be done in both the short term and the long term to prevent the problem from recurring.

Throughout his work, Freire emphasises the importance of teaching based on dialogue rather than monologue. In this respect, he argues that the teacher must allow the learners to talk freely and express themselves so that they feel an important part of the learning process. Freire maintains that through careful listening, the teacher will have sufficient information to pose challenging questions to their learners. By tackling these tasks, Freire claims that the learners will develop a greater insight into the issue.

### How to use it

American Jane Elliott taught a class of all white 9-year-olds. The day after Martin Luther King was shot, she wanted to show her class how it felt being discriminated against because of a physical characteristic. She divided her class into blue-eyed

and non-blue-eyed children. She told them that the blue-eyed children were brighter and better than the others. The blue-eyed children started acting in an arrogant manner and deriding the others who became confused and withdrawn. She reversed the process the following day and found that the non-blue-eyed children became the arrogant ones. By using role play to get the children to experience first-hand what effect prejudice has on people, she was hoping to teach them the importance of tolerance towards one another. Years later, many of her former pupils confessed that the exercise had had a profound effect on their thoughts about segregation.

Here are some tips if you want to apply Freirian methodologies:

- Don't be afraid to get to know more about your learners and the issues they face on an ongoing basis. Dig deep but always be aware of the boundaries in the teacher-learner relationship and don't overstep them.
- Use whatever approaches you can to get the learner to expand on these issues. Role play, metaphors, analogies and drawings are tools you can use here. The important thing is to get a rich picture of the learner's current situation.
- As the picture becomes richer, and the root causes of the issues begin to become clearer, start thinking about how to resolve these. There are some great tools out there such as mind mapping and problem trees that will help both you and the learner come to terms with how to address the issues.
- You can now work with the learner to develop an appropriate plan of action to achieve the desired learning outcome. This may include some quick wins mixed in with some long-term planning.

Although Elliott's actions may be considered by some to be unethical, few could dispute that she found an original approach, based on Freire's ideas, to address a major sociological issue, which had a long-lasting effect on her learners.

### In the classroom

- take an interest in your learners' lives outside of the classroom.
- Don't be afraid to use different approaches to get learners to open up on issues that may be affecting their learning.
- Long-term learning plans are important but don't underestimate the value of a few quick wins in building up your learners' confidence.

### For more on Freire's ideas, read

Freire, P. (1972) *Pedagogy of the Oppressed*. London: Penguin.

For more on Elliott's research, visit her website at: [www.janeelliott.com](http://www.janeelliott.com)

**A**lthough Dewey was primarily a behavioural psychologist, his application of the philosophy of pragmatism, underpinned by his concern for interaction, experience and reflection, had a profound impact on educational thinking and practice. Dewey's basic belief was that traditional education was too concerned with the delivery of pre-ordained knowledge and not focused enough on the learner's actual learning experiences. He emphasised the importance of experience and education in his groundbreaking book of that title, first published in 1938.

The seven key principles covered in the book can be summarised as:

- The task of teachers should not be to communicate knowledge and skills to learners but to use their learners' experiences as a teaching tool.
- The challenge for experience-based education is to provide learners with quality experiences that will result in growth and creativity.
- Continuity and interaction are essential to discriminate between experiences that are worthwhile and those that can be discounted.
- Although control is necessary to establish order in the classroom, it should be based on what Dewey describes as the moving spirit within the class and not on the desire or will of one individual.
- An education system that restricts learners' freedom of thought and movement will inhibit their intellectual and moral development.
- It is the teacher's responsibility to provide guidance to the learner in their use of observation and judgement and to select experiences that have the promise and potential to exercise the learner's intelligence.
- The danger of failure lies in the possible misunderstanding of what constitutes experience and experiential education.

Dewey began a movement that others, such as Kolb (see Theory 43), developed into the notion of experiential learning, which to this day remains the cornerstone of many educational approaches and learning programmes.

### How to use it

Dewey's ideas on progressive education are still as progressive now as they were when he wrote them down in the 1920s and 1930s. Sad to think, I was only 1 year old when Dewey died in 1952. As a senior, I'm now able to get into the cinema at reduced rates, though I'm not that old as to have seen the original version of *Goodbye, Mr Chips* at the cinema. It is, however, one of the most endearing films I've ever seen.

*Goodbye, Mr Chips* is the story of a history teacher in a traditional nineteenth-century English boarding school reflecting on his career as a teacher. He was looked on as a very private, stuffy disciplinarian who is constantly passed over for promotion. After 20 years in the job, and in his mid-40s, he marries Kathy who opens his eyes to the fun to be had in life and teaching, and makes him see the potential that he has, that he never recognised in himself. Chips goes on to experience many personal triumphs and tragedies over the years but the one constant is the love and admiration his pupils and colleagues have for him.

The significance of Dewey's ideas for modern-day teachers are:

- Having a passion for an education system that offers equality of opportunity for everyone is at the heart of what every teacher should be striving for.
- Learners should be provided with quality experiences that engage them and build on their existing experiences. The teacher's role is to help the learner to assess the value of the experience.
- Each past or present experience should be viewed from the perspective of how it can shape future actions. This can be done through a cyclical process of: action; reflection on what happened; having a theory about what might happen if things were done differently; experimenting with the new theory; and revising the course of action based on the experiments.
- Thinking and reflection should be the cornerstone of teaching practice. Encouraging learners to share their thoughts will allow the teacher to get to know the learners better and benefit the overall learning experience of the class.

Coincidentally, *Goodbye, Mr Chips* was made the year after Dewey's *Experience and Education* was first published in 1938. I wonder if the film's director had read Dewey's book?

### In the classroom

- allow learners to share their experiences with others in the class.
- Encourage them to reflect on their experiences.
- Get them to think about what might happen if they did things differently.

### For more on Dewey's ideas, read

Dewey, J. (1963) *Experience and Education*. New York: Collier Books.

Dewey, J. (1966) *Democracy and Education: An Introduction to the Philosophy of Education*. New York: Free Press.



**P**iaget is arguably the most influential of the cognitive theorists. His belief that people construct knowledge (as opposed to receiving it) is at the heart of most cognitive theories. He suggests that the construction of knowledge is based on the individual's experiences which, in turn, are influenced by their emotional, biological and mental stage of development.

Piaget argued that there are four stages of development:

- The **sensorimotor** stage, where learning takes place through touch and feel.
- The **pre-operational** stage, where the ability to arrange objects logically starts to develop.
- The **concrete operational** stage, where the ability to think logically about objects and events starts to become more structured.
- The **formal operational** stage, where abstract thinking and verbal reasoning start to develop.

Although Piaget's theories were developed from his studies of children, I would expand them to include people of all ages and summarise them as follows:

- People react differently to learning according to their stage of cognitive development.
- Teachers should take an active, mentoring role towards their learners.
- Learners should be encouraged to learn from their peers.
- Learners should be allowed to learn from their mistakes.
- The focus should be on the process of learning as well as the outcome.
- Teachers should respect each learner's interests, abilities and limits.

Although not without his critics (notably on his assertion that children are autonomous in their construction of knowledge and understanding), Piaget's theories have been seminal in work on human cognitive development.

### How to use it

I use football as a way of getting young people with behavioural issues to engage in the learning process. One of the exercises we do on this programme is to have a six-a-side competition in which the winning team has a penalty shoot-out against each other, with a prize for the individual winner. We then explore issues related to cooperation and competition. Danny suffered with Asperger's Syndrome. His cognitive development was below that of his peers and he had difficulty socialising with other young people. He was also very passionate about football. I put him in a team with some real hard knocks. As they lined up for the penalty shoot-out in the six-a-side competition, the hardest of the hard knocks whispered to me that they'd rigged it for Danny to win. The sheer joy on Danny's face when he scored the winning penalty and the emotion of his mother telling me he'd never had friends who did that for him before, is something I'll never forget.

Here are some tips on how to apply Piaget's theory:

- People may react differently to learning, not as a result of their age, but according to the stage they are at in their cognitive development.
- Some learners will flourish in group work whereas others may need more one-to-one support. Try to balance your time so that you can cater for all of your learners' needs.
- Encourage your learners to learn from each other and emphasise that everyone will have something to offer in this respect.
- Convince them that failing at something doesn't mean they are a failure; simply that they have failed a task. The important thing is to get learners to learn from their mistakes.
- Congratulate your learners on their efforts as well as their achievements.

I do admit to a moment of panic when Danny missed his first penalty, only for the goalkeeper to put his hand up and admit that he'd moved before the penalty was taken, and for the referee (the hard lad) to order the penalty to be re-taken. Some so-called professional footballers could learn a lot from this.

### In the classroom

- Try to get an understanding of what stage in their cognitive development your learners are at.
- Adapt your teaching strategies to deal with this.
- Acknowledge effort as well as achievement.

### For more on Piaget's ideas, read

Piaget, J. (1957) *Construction of Reality in the Child*. London: Routledge & Kegan Paul.  
Piaget, J. (1970) *Genetic Epistemology*. New York: Columbia University Press.